

CLAIMS

Claim 1. An ferrierite/iron zeolitic composition comprising a ferrierite assaying from 1 to 6% of iron by weight.

Claim 2. The composition of claim 1, comprising as ions in exchange position, from 0.5 to 0.1% of potassium.

Claim 3. A catalyst for conversion of N_2O comprising an agglomerate of 80 to 90% of ferrierite according to claim 1, and 20 to 10% of an agglomeration binder.

Claim 4. The composition of claim 4, wherein agglomeration binder is a clayey, siliceous or aluminous agglomeration binder.

Claim 5. A process for the preparation of the catalyst for the conversion of N_2O as described in claim 3, comprising the steps of:

agglomerating a ferrierite powder with a binder to form an agglomerate paste,
shaping the paste as extrudates, in a proportion of 80 to 90% of ferrierite and 20 to 10% of binder, as weight % on a dry basis,
heating the agglomerate at a temperature sufficient for calcination,
carrying out at least one exchange with an aqueous iron salt solution, so that the exchanged ferrierite assays from 1 to 6% of iron by weight,
drying the exchanged agglomerate.

Claim 6. A process for the preparation of a catalyst for the conversion of N_2O as described in Claim 3, comprising the steps of:

exchanging a ferrierite powder, at least once, with an aqueous iron salt solution, so that the exchanged ferrierite assays from 1 to 6% of iron(percentages by weight),
agglomerating the exchanged ferrierite powder with a binder to form an agglomerate paste,

shaping the paste as extrudates, in the proportion of 80 to 90% of ferrierite and 20 to 10% of binder, as weight % on a dry basis,

heating the exchanged agglomerate at a temperature sufficient for drying and optionally calcining said agglomerate.

Claim 7. The process according to claims 5 or 6, wherein the agglomeration binder is a peptized alumina.

Claim 8. The process according to claims 5 or 6, wherein the iron salt is a ferrous salt.

Claim 9. The process according to claims 5 or 6, wherein the iron salt is a ferric salt.

Claim 10. The process according to claim 6, further comprising before agglomerating, the step of subjected the ferrierite powder beforehand to one or more exchanges with an aqueous solution of an ammonium salt.

Claim 11. The process according to claim 5, further comprising, before being exchanged with an iron salt solution, the step of subjecting the agglomerates to one or more exchanges with an aqueous solution of an ammonium salt.

Claim 12. The ferrierite/iron according to claim 1, wherein said ferrierite comprises from 2 to 4% by weight iron.

Claim 13. The catalyst according to claim 3, wherein said agglomeration binder is clayey, siliceous, or aluminous.

Claim 14. The process according to claim 5, wherein said binder is a clayey, siliceous or aluminous binder.

Claim 15. The process according to claim 5, wherein said temperature sufficient for calcination is approximately 400°C.

- Claim 16. The process according to claim 5, wherein the exchanged ferrierite assays from 2 to 4% of iron.
- Claim 17. The process according to claim 6, wherein the exchanged ferrierite assays from 2 to 4% of iron.
- Claim 18. The process according to claim 6, wherein said binder is a clayey, siliceous or aluminous binder.
- Claim 19. The process according to claim 6, wherein said temperature sufficient for drying and optionally calcining said agglomerate is approximately 400°C.
- Claim 20. The process according to claim 14 or 18, wherein the agglomeration binder is a clay, taken alone or as a mixture with kaolinite, attapulgite, bentonite or halloysite.